

DISCUSSION OF THE AMENDMENT

Claims 1-30 are active in the present application. Claims 27-30 are new claims. Support for new Claim 27 is found on page 4, lines 28-32 of the specification. Support for new Claims 28 and 29 is found on page 3, lines 27-36 of the specification. Support for new Claim 30 is found in the original claims. The claims are amended for matters of form not affecting the claimed subject matter.

No new matter is added.

REMARKS

Present independent Claim 1 is drawn to an injection molding that includes microparticles that are “securely anchored” to the surface of the injection molding. It appears that the Office is interpreting the term “anchored” in a manner that is not in agreement with the disclosure of the present specification. The Office may be of the opinion that a microparticle is securely anchored to the surface of the injection molding if the microparticle merely contacts the surface of the injection molding or is otherwise indirectly or externally bonded to the surface of the injection molding.

Applicants submit that the Office’s interpretation of the term “anchored” does not take into consideration relevant disclosure in the present specification. Applicants draw the Office’s attention to page 5, lines 21-34, reproduced below for convenience:

The manner of obtaining the securely anchored layer of microparticles is that, prior to the injection-molding process, microparticles are applied in the form of a layer to the injection mold, and this mold is then used for injection molding. During the injection-molding process, at least some of the microparticles are pressed into the injection-molding melt, and, when the injection-molding melt solidifies, are firmly held thereby and thus anchored, giving a particularly stable anchoring if the microparticles used have a fine structure on the surface, since the fine structure is partially filled by the injection-molding melt and many anchoring sites are present after solidification of the injection-molding melt.

Applicants also draw the Office’s attention to Figure 1 of the present application, shown below for convenience:

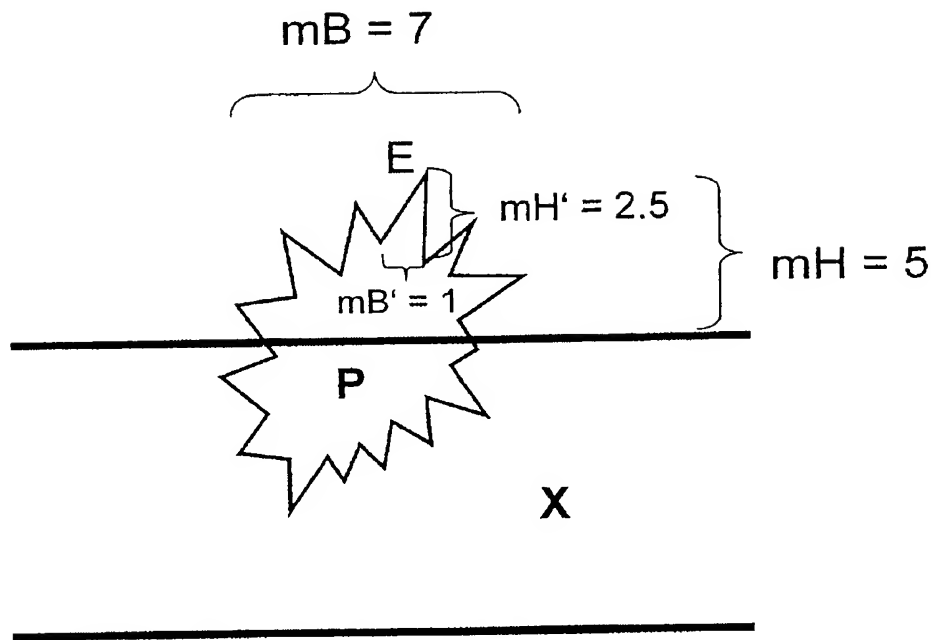


Fig. 1

It is readily evident from Figure 1 above that the microparticle (e.g., P in Figure 1) is impressed or embedded into the surface of the injection molding (e.g., X in Figure 1 above).

Applicants submit that those of ordinary skill in the art would readily recognize that the term “securely anchored” as it appears in Claim 1 of the present application requires the microparticles to be at least partially impressed or embedded in the surface of the injection molding.

Applicants draw the Office’s attention to new dependent Claims 28 and 29 which explicitly recites microparticles that are impressed into the surface of an injection molding.

During a discussion with the Examiner and the Examiner’s Supervisor on July 30, 2008, Applicants’ U.S. representative pointed out the above-mentioned disclosure of the present application. The Examiner indicated that Applicants’ arguments would be considered with respect to the meaning of the term “securely anchored” as it appears in the description and claims of the present application.

The Office rejected Claim 1 as anticipated over a patent to Hüffer (US 6,783,807). Applicants submit that it is readily evident that Hüffer does not disclose an injection molding having a surface on which microparticles are embedded or impressed. To the contrary, the materials present on the surface of the Hüffer substrate are coated thereon in a manner which does not penetrate the surface of the Hüffer substrate, e.g., the Hüffer microparticles are external to the surface of the molding. The fact that Hüffer discloses the application of a layer of material onto a surface of substrate rather than into the surface of a substrate is readily evident from the patent, see column 1, lines 6-8; column 3, line 64 to column 4, line 5; column 6, lines 28-32; and column 10, lines 20-34.

Applicants submit that the process disclosed in Hüffer cannot provide a substrate having a surface embedded or impressed with microparticles. In fact, Hüffer discloses the use of an electrodeposition process by which a coating layer is deposited on a substrate surface. There is no disclosure or suggestion anywhere in the Hüffer patent that microparticles should be embedded or impressed into the surface of an injection molding.

Applicants thus submit that the rejection of the present claims as anticipated by Hüffer is not supportable and should be withdrawn.

Present dependent Claim 10 limits the injection molding of Claim 1 by reciting the depth to which the microparticles are anchored in the surface of the injection molding. The Office recognizes that the subject matter of Claim 10 is not anticipated by Hüffer but nonetheless states “Hüffer teaches that the inorganic particles are deposited on the surface to be coated in such a way they form protuberance of from 10 nm to 50 μ m and that the protuberances having mean spacing of from 100 nm to 100 μ m . . .” (see page 5 second full sentence of the second full paragraph). The Office’s assertion in this regard makes absolutely no sense whatsoever. On the one hand, the Office acknowledges that Hüffer teaches depositing inorganic particles on the surface of a substrate. On the other hand, the Office

assert it would be obvious to modify such a process by depositing particles in the surface of a substrate. The Office provides no support for such an assertion. Applicants submit that the modification suggested by the Office is not supported by the disclosure of Hüffer and, in fact, is contradictory to Hüffer's explicit teaching of a process of depositing a coating layer on the surface of a substrate rather than in the surface of a substrate.

Apparently recognizing the weakness of this basis for rejecting the claims, the Office further relies on Baumann (US 6,800,354) as support that the subject matter of Claim 10 is obvious. The Office appears to rationalize the rejection of Claim 10 over the combination of Hüffer and Baumann for the reason:

“Baumann teaches self-cleaning particles on a substrate with a height of 0.5 to 15µm (Col. 5, Lines 13-17), which are embedded, thus anchored (Col. 4, Lines 23-27), forming a layer with thickness of 5-1,000 nm (Col. 8, Lines 29-39), which would obviously be anchored by at least 10% of the particle diameter for the purpose of providing a self-cleaning article . . .”

Last full paragraph of page 5 of the June 25, 2008 Office Action (emphasis added).

Applicants submit that the Office misinterprets the disclosure of Baumann and that Baumann does not in fact disclose any injection molding or any other substrate having a surface into which microparticles are embedded or impressed. As discussed above for Hüffer, Baumann discloses a process in which a layer of material is coated onto a substrate surface (see column 1, lines 13-16; column 1, lines 20-24; column 2, line 66 to column 3, line 8; column 7, lines 32-36; column 9, lines 43-58; and the like).

In the detailed description of the invention, Baumann discloses the following:

The present invention provides a self-cleaning or hydrophobic coated substrate. The substrate is preferably glass, ceramic, plastic or metal, or is a glazed or enameled coated substrate, and has a self-cleaning or hydrophobic coating arranged thereon. The coating includes particles that form a surface structure on the coating opposite the coating side that contacts the substrate.

See the paragraph bridging pages 2 and 3 of Baumann (emphasis added).

Applicants respectfully request withdrawal of the rejection for the reason that the art relied on by the Office does not disclose or suggest all of the present claim limitations.

The Office appears to place significant emphasis on the disclosure at column 4, lines 23-27 of Baumann. This disclosure is reproduced below for convenience:

An example of a material which contains Me--O--Me' structural elements and in which the structure forming particles are embedded is a system obtained during a firing of a coating glass or a vitreous or enamelled substrate with a composition comprising . . .

It appears that the Office believes that the word “embedded” as it appears in the above-quoted text, is an indication that the particles of Baumann may be embedded into the surface of a substrate. Applicants submit that this is not correct and that the word “embedded” as it appears above is a description of microparticles that are embedded in a matrix of a vitreous coating present on a substrate surface. Applicants direct the Office’s attention to further disclosure of this embodiment of the Baumann disclosure beginning at column 4, lines 4-22. Applicants submit that it is readily evident that there is no disclosure or suggestion that any particle of Baumann is embedded or impressed into the surface of a substrate. Instead, at best, Baumann discloses that a particle may be embedded (e.g., encased or englobed) in a vitreous coating layer present on the substrate surface.

Applicants thus submit that the rejection of Claim 10 is obvious over the combination of Hüffer and Baumann is not supportable and should be withdrawn.

For the reasons discussed above in detail, Applicants submit that the rejection of the claims is not supportable and should be withdrawn. Applicants respectfully request withdrawal of the rejections and the mailing of a Notice of Allowance acknowledging the patentability of the presently claimed subject matter.

Respectfully submitted,

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